Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

LIBRARY
BUREAU OF
DAIRY INDUSTRY

PROTECT
HARDWOOD STANDS
FROM
GRAZING

LEAFLET No. 86

U.S. DEPARTMENT OF AGRICULTURE

ISSUED MARCH, 1933

Rev.ed.
follows

PROTECT HARDWOOD STANDS FROM GRAZING

By W. K. Williams, *Extension Forester, Office of Cooperative Extension Work*

Many farmers in the hardwood regions of the Central and Eastern States have open woodlands with no young growth coming in to restock the stand. Frequently some of the larger trees are dead or dying. These woods have lost their thrifty appearance, and have gradually become very low in timber production. Grazing the farm woods is one of the practices that greatly reduces timber productiveness and should not be followed if the woods are to remain in a healthy, growing condition. (See title page, protected stand.)

Farm woodlands have contributed materially to the farming enterprise in these regions by supplying fuel wood, fence posts, rough timbers, and some wood products for sale. If the woods are to keep up this production and increase the returns from the farm, they must have adequate protection. Using the woodlands for both timber growing and grazing will prove disastrous to the timber stand.

Unrestricted grazing of farm woodlands causes much damage to timber and soil. Damage to timber is not always recognized, although it has a decided effect on the quality and quantity of lumber produced. The growth of timber on a grazed area is slowed down considerably, and frequently the trees develop dead tops and other defects as results of injury. It is believed that grazing may increase the development of butt decay which is common in some stands. That portion of the tree in which the decay occurs is often cut off and left in the woods, with considerable loss.

In speaking of damage one timber buyer said:

> I never believed grazing hurt timber until I logged over a heavily pastured area and found a lot of defects which lowered the timber grade considerably.

And another said:

> We see the defects in timber from grazed woods when we cut and split it for handle stock. This decay does not show up so much in protected woods where the soil and growing conditions are undisturbed.

If livestock is run in the woods for only a short period the damage it does is largely unnoticeable. Under continued pasturing over a period of years however, the woods degenerate decidedly, and gradually change over from forest to an open or prairie condition. In some cases this makes poor land into pasture of low value, and in other instances on good soils it means the destruction of the farm woods, even though they may be needed and may be considered an asset to the farm.

Farm woods continually grazed hold little promise of profitable timber growing, while, if protected and managed as a going business, they are a source of additional income. The farm timber crop offers an opportunity to use unoccupied farm labor, teams, and equipment during the late fall and winter when other farm operations are at a standstill.

154231°—33

In grazed woods young hardwood seedling and sapling trees are noticeably absent. (Fig. 1.) Under these conditions there is little chance for the woods to perpetuate themselves, as the young trees are either browsed off, defoliated, or trampled down. Studies on the browsing of trees, conducted by the Forest Service, show that the foliage of a number of the more valuable species is particularly palatable to livestock. The foliage of such trees as white ash (fig. 2), sugar maple, tulip poplar, elm, basswood, white oak (fig. 3), red oak, and shellbark hickory appears to be relished under most conditions.

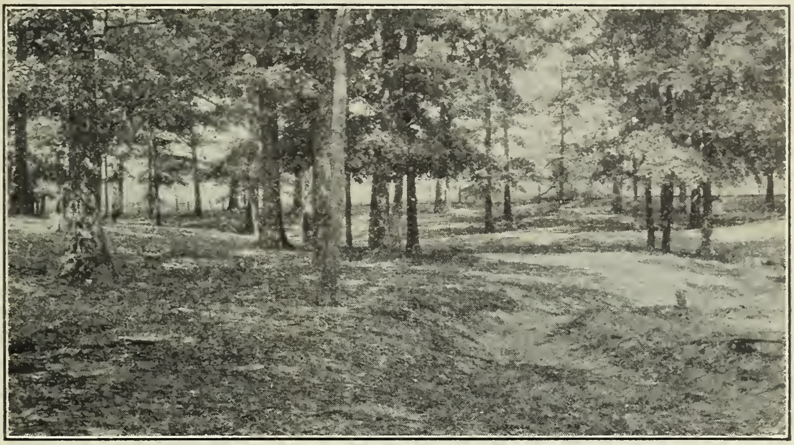

FIGURE 1.—A grazed woods denuded of vegetation by livestock. The soil is packed by constant trampling, tree growth is retarded, and no young seedlings are coming in to renew the stand

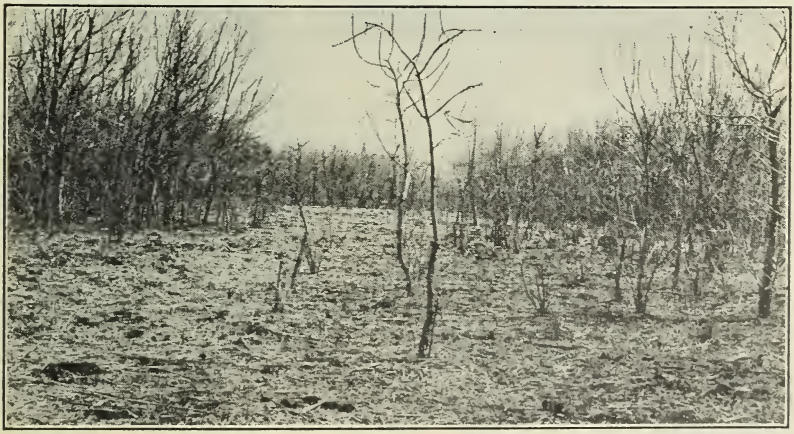

FIGURE 2.—Severe damage from recurrent browsing in a planted grove of ash trees

Butternut, honeylocust, black gum, black oak, shagbark hickory, scarlet oak, sycamore, and chestnut are browsed somewhat less frequently.

In contrast to these species, that are injured under most conditions, are a number that are seldom browsed even during very heavy grazing. Among these are blackjack oak, hawthorn, black cherry, dogwood, ironwood, red gum, pawpaw, and persimmon. Grazing encourages the growth of the inferior or weed trees in the last group and leaves them to fill the openings that should be occupied by the species in the former group that have a higher commercial value.

In addition to the direct damage to tree growth resulting from grazing, the soil is compacted by constant trampling by livestock. Forest soil in a natural state is loose and covered with a leaf mold or mulch which is essential for forest growth and for retaining moisture in the soil. When this soil covering is disturbed by being trampled and exposed after a large portion of the young growth has been destroyed by grazing, the soil becomes sun baked, packed, dry, and unfavorable to natural restocking. Constant trampling and rubbing exposes tree roots, injures them, and allows them to dry out. This results in poorer quality of timber and wood products, eventually weakens the older trees, and sometimes causes the top, and later the whole tree, to die.

It is obvious that if grazing is permitted to destroy the young trees, and cause some loss among the larger ones, the resulting stand becomes unattractive to a timber buyer. Farm woods dwindling in timber values are a direct loss to the owner. Timber, like a corn crop, needs some attention and both need protection from livestock. In the case of timber, the returns are deferred because of the longer period required for the crop to reach merchantable size, but if managed properly the woods can be made to produce an income besides meeting, in a large measure, the timber requirements of the farm.

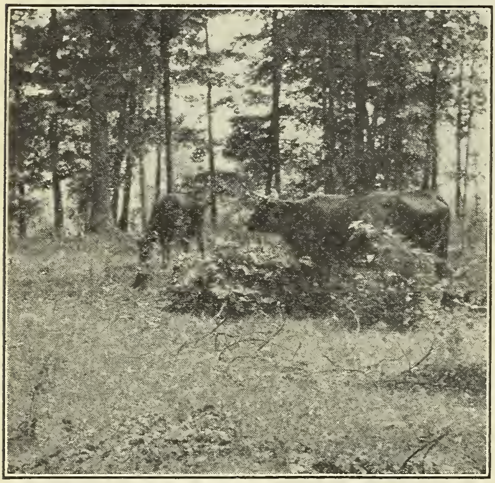

FIGURE 3.—Cattle browsing on young tender sprouts of oak and hickory

Excluding livestock by fencing off the farm woods is necessary to good timber production. If the woods are already a part of the pasture, a good plan for developing both phases is to fence off the more heavily timbered areas, leaving the lightly wooded portion in the pasture. This provides shade and protection for livestock during the hot summer and insures better and more profitable timber-growing conditions.

For further information consult your county agricultural agent, State forestry agencies, or the Forest Service of the United States Department of Agriculture.

U. S. GOVERNMENT PRINTING OFFICE: 1933

For sale by the Superintendent of Documents, Washington, D. C. - - - - - Price 5 cents